



CITY OF MIAMI GARDENS

COMPREHENSIVE DEVELOPMENT MASTER PLAN

INFRASTRUCTURE ELEMENT

GOALS, OBJECTIVES AND POLICIES

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Prepared By:
The City of Miami Gardens
Planning and Zoning Department
1515 NW 167th Street, Building 5, Suite 200
Miami Gardens, Florida 33169

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CHAPTER III - INFRASTRUCTURE ELEMENT GOALS, OBJECTIVES AND POLICIES

The purpose of the Infrastructure Element is to set goals, objectives and policies which provide standards for the provision of utility services in the City of Miami Gardens, and facilitate effective planning, construction and provision of services to its residents. The City does not provide these services to its residents directly, but through other agencies namely the City of North Miami Beach, the Miami-Dade County Water and Sewer Department, the Miami-Dade County Department of Solid Waste Management. The Infrastructure and the Capital Improvements Elements both address utility planning issues relative to the City and its providers. While the Capital Improvements Element addresses the financing issues of the utilities systems, the Infrastructure Element presents policies concerning how and where utilities are to be located and generally how they need to be designed, and relies on information shared by the utility providers. The Goals, Objectives and Policies in this Element address the planning, location and service areas of utilities, inclusive of environmental protection issues particular to the City of Miami Gardens.

GOAL 1: SANITARY SEWER:

Provide for sanitary sewer facilities that meet the city's demand in a manner that promotes public health, environmental protection and operational policy.

Objective 1.1: Sanitary Sewer Level of Service (LOS) Standard:

Continue to work with the Miami-Dade County Water and Sewer Department (WASD) to provide sanitary sewer facilities to meet existing and projected demands based on the adopted level of service standard.

Monitoring Measures: Maintain level of service for sanitary sewer facilities and provision of adequate facilities prior to development.

Policy 1.1.1: The adopted level of service standard for sanitary sewer facilities shall be as follows:

- “System LOS” – The regional wastewater treatment system shall operate within a design capacity of at least 2 percent above the average daily flow for the preceding year.
- “User LOS” –100 gallons per capita per day per Equivalent Residential Unit (ERU).

Policy 1.1.2: The adopted LOS standard shall be used as the basis for determining the availability of facility capacity and the demand generated by a development within the City for purposes of issuing development orders or building permits.

Objective 1.2: Sanitary Sewer Facility Capacity:

All improvements, including replacement, expansion, or increase in capacity of facilities, shall maintain or improve the level of service standard for the facilities as required by Miami-Dade County WASD.

Monitoring Measures: Improvements to sanitary sewer facilities to increase or maintain the level of service standard for sanitary sewer system.

Policy 1.2.1: Continue to coordinate with Miami-Dade County WASD to ensure that adequate facility capacity will be available to serve development concurrent with the demands for such facilities.

Policy 1.2.2: Decisions impacting existing and future demand shall be consistent with the Miami-Dade County WASD Facilities Plan.

Objective 1.3: Sanitary Sewer Service and Septic Tanks:

Coordinate with WASD and regional permitting agencies to develop long-range plans that abandon the use of septic tanks and provide WASD sanitary sewer service to the entire City.

Monitoring Measures: Number of abandoned septic tanks and percentage increase in sanitary sewer service within the City of Miami Gardens.

Policy 1.3.1: Coordinate with WASD to obtain an accurate account of all permitted septic tanks within the City and evaluate the feasibility of eliminating active tanks in areas where connection to WASD's sanitary sewer system is practical.

Policy 1.3.2: City will encourage the use of central sanitary sewer systems for new development as opposed to septic tank systems to prevent potential soil and groundwater contamination.

Policy 1.3.3: No new private sanitary sewer facilities shall be permitted unless they are part of a package treatment system that uses the aerobic (with oxygen) digestion process to treat sewage.

Objective 1.4: Sanitary Sewer Connection:

Ensure that all new development with access to sanitary sewer facilities with available capacity is required to connect to the system.

Monitoring Measures: Number of approved developments consistent with this objective.

Policy 1.4.1: Future development of new subdivisions, and any additions to subdivisions that have not received final subdivision approval, at urban densities greater than 1.0 dwelling unit per acre or any new non-residential uses shall be allowed only in areas with existing or planned capacity in the sanitary sewer systems to support the proposed development. Planned

capacity is defined as that increase in plant capacity as a result of capital improvements identified in the Miami-Dade County Capital Improvements Program .

Policy 1.4.2: Retrofitting of existing septic systems onto existing sanitary sewer systems shall be required within WASD service areas where there has been evidence of septic tank failure.

Objective 1.5: Correction of Sanitary Sewer Deficiencies:

Implement procedures to ensure that existing sanitary sewer facility deficiencies are corrected to maintain the level of service standards as adopted.

Monitoring Measures: Maintain level of service for sanitary sewer facilities.

Policy 1.5.1: Coordinate with Miami-Dade County WASD to ensure any sanitary sewer deficiencies are corrected to maintain the adopted level of service standards.

GOAL 2: SOLID WASTE:

Provide for solid waste disposal facilities that meet the City's needs in a manner that promotes public health, environmental protection, and operational efficiency.

Objective 2.1: Solid Waste Disposal Level of Service (LOS) Standard:

Continue to provide solid waste disposal to meet both existing and projected needs at the level of service consistent with State Statutes.

Monitoring Measures: Maintain level of service for solid waste disposal.

Policy 2.1.1: The City adopts the County's level-of-service standard which is as follows: to maintain solid waste disposal capacity sufficient enough to accommodate waste flows to the system through long-term interlocal agreements or contracts along with anticipated non-committed waste flows for a period of five (5) years.

Policy 2.1.2: All businesses within the City that maintain hazardous materials on their premises shall comply with state and federal licensing requirements. As per state regulations, each licensee shall have an emergency clean-up plan, secondary containment, specific and general site conditions and proper storage, processing, use and disposal provisions.

Policy 2.1.3: Continue to coordinate with Miami-Dade County to ensure adequate capacity for solid waste disposal.

Objective 2.2: Public Awareness and Resource Recovery Programs:

Continue to promote public awareness through community education programs that emphasize measures for reduction in solid waste disposal including recycling, composting, source reduction, reusable materials and other measures to reduce disposal.

Monitoring Measures: Promote efforts of recycling, composting, and other programs to reduce solid waste disposal and the amount of trash sent to the landfill.

Policy 2.2.1: Participate in the County's Resource Recovery program as a means to reduce the amount of trash sent to the landfill.

Policy 2.2.2: Continue to monitor established guidelines for private collectors of solid waste, and continue to provide for policing, servicing, and collecting of oversize wastes.

Policy 2.2.3: Encourage recycling by the following educational and monitoring opportunities:

- a. Seminars or educational sessions for students and interested citizens; and
- b. Coordination with the media to educate the public by producing programs, articles, bulletins, and brochures that demonstrate measures that the public can use to reduce waste, reuse materials, and conserve energy.

Policy 2.2.4: Coordinate with Miami-Dade County to educate businesses and residents on the proper management of hazardous wastes and the provision of convenient disposal opportunities including distribution of written materials and publication of their regular schedule of household hazardous waste collection days.

GOAL 3: STORMWATER:

Protect natural drainage features and the quality of waters from degradation by uncontrolled stormwater runoff and ensure the provision of flood protection for existing and new development.

Objective 3.1: Stormwater Drainage Level of Service (LOS) Standard:

Continue to insure adequate stormwater drainage facilities and service for new and existing development.

Monitoring Measures: Maintain level of service for stormwater drainage.

Policy 3.1.1: New development shall provide facilities designed to control and treat stormwater runoff at the following levels of service:

- a. *Water Quality Standard.* Stormwater facilities shall meet the design and performance standards established in Chapter 62- 25, Rule 25.025,

Florida Administration Code (FAC), with treatment of the runoff from the first one inch of rainfall onsite to meet the water quality standards required by Chapter 62- 302, Rule 862-302.500, FAC.

- b. *Water Quantity Standard.* Where two or more standards impact a specific development, the most restrictive standard shall apply:
 - Post-development runoff shall not exceed the predevelopment runoff rate for a 25-year storm event, up to and including an event with 24-hour duration.
 - Treatment of the runoff from the first one inch of rainfall onsite or the first 0.5 inch of runoff from impervious areas, whichever is greater.
- c. *Flooding Standard.* During the 10-year return design storm event, flooding of minor arterials should be below the crown of the roadway.

Policy 3.1.2: All new development and redevelopment must provide adequate stormwater treatment so as not to degrade the water quality of the receiving water body. Regardless of the area served, the stormwater treatment provided must provide a level of treatment that meets or exceeds the requirements of Chapter 40C-42 or Chapter 40-B4, (whichever is applicable), FAC.

Policy 3.1.3: All development outside a regional master plan area shall control post-development runoff rates and/or volumes to not exceed predevelopment runoff rates and/or volumes.

Objective 3.2: Protection of Natural Drainage Features

Ensure the protection of natural drainage features, including surface water quality and groundwater aquifer recharge functions, from stormwater runoff.

Monitoring Measure: Number of policies, programs, and practices implemented to protect natural drainage features from stormwater runoff.

Policy 3.2.1: Stormwater runoff from development shall not adversely impact stormwater storage capacity of adjacent lands, identified conservation areas, or downstream surface waters or groundwater.

Policy 3.2.2: Stormwater runoff from development activities shall not violate water quality standards during construction.

Policy 3.2.3: Encourage the use of stormwater runoff for irrigation, agricultural, or industrial water needs in order to conserve potable water sources.

Policy 3.2.4: All new development and redevelopment, located within the High Aquifer Recharge Areas shall provide treatment of the stormwater before it enters the Floridan Aquifer.

Policy 3.2.5: New stormwater management systems that receive stormwater from areas that are a potential source of oil and grease contamination shall include a baffle, skimmer, grease trap, pretreatment basin, or other mechanism suitable for preventing oil and grease from leaving the stormwater management system in concentrations that would cause violations of water quality standards in the receiving waters.

Policy 3.2.6: No development order shall be issued for new development that would result in an increase in demand on deficient facilities unless one of the following criteria is met:

- The necessary facilities are under construction at the time a development permit is issued and will be completed when the impacts of development occur; or
- The necessary facilities are guaranteed in an enforceable development agreement that includes the provisions set forth in the Capital Improvements Element; or
- The development is limited to pre-development contributions to the capacity of the existing facility in cases where upgrading of existing facilities would create undesirable impacts to adjacent or downstream properties.

Policy 3.2.7: Coordinate improvements to the stormwater management system that serve new or future needs with the Future Land Use Map and level of service standards.

Policy 3.2.8: All appropriate state, water management district, and/or federal permits required by a development shall be obtained and submitted to the City prior to the issuance of construction permits.

Objective 3.3: Stormwater Master Plan

Finalize and adopt the stormwater master plan and evaluate taking control of stormwater infrastructure from Miami-Dade County.

Monitoring Measure: Completion of a stormwater master plan.

Policy 3.3.1: Subject to funding availability, implement a citywide stormwater master plan as soon as such plan is completed.

Policy 3.3.2: Prepare and maintain an inventory of existing stormwater management facilities. All new facilities shall be immediately incorporated into the

inventory program. The initial inventory shall be part of a stormwater master plan.

Policy 3.3.3: Establish a program to maintain and improve existing stormwater management facilities in order to maximize their capacity and lifespan and to ensure compliance with state water quality standards.

Policy 3.3.4: Pursue the use of stormwater benefit assessments or other dedicated revenue sources for correcting localized deficiencies in stormwater management facilities.

Policy 3.3.5: Priorities for correcting deficiencies in existing City-maintained stormwater management facilities shall be scheduled in the Capital Improvements Program in accordance with the criteria established in the Capital Improvements Element.

Policy 3.3.6: At such time when the City is awarded responsibility for development review and stormwater infrastructure, it should pursue becoming a part of Miami-Dade County's Application to the US EPA's NPDES Stormwater Permitting Program.

GOAL 4: POTABLE WATER:

Provide potable water facilities that meet the City's demands in a manner that promotes the public health, sanitation, environmental protection, and operational efficiency.

Objective 4.1: Potable Water Level of Service (LOS) Standards

Continue to coordinate with the Miami-Dade County Water and Sewer Department (WASD) to provide potable water facilities to meet the existing and projected demands based on level of service (LOS) standards consistent with State Statutes.

Monitoring Measures: Level of service for potable water facilities and provision of adequate facilities prior to development.

Policy 4.1.1: The level of service standard for potable water is as follows:

- *User LOS.* 200 gallons per capita per day.

Policy 4.1.2: The LOS standards adopted in Policy 4.1.1 shall be used as the criteria to measure the available capacity of the potable water system. A development order will not be approved unless adequate capacity will be available concurrent with the impacts of development based on the following:

- The necessary facilities and services are in place at the time the final development order is issued; or

- The final development order is issued subject to the condition that the necessary facilities and services will be in place when the impacts of development occur; or
- The necessary facilities are under construction at the time the final development order is issued; or
- The necessary facilities and services are guaranteed in an enforceable development agreement and guarantees the necessary facilities and services will be in place at the time of development.

Policy 4.1.3: Water supply and distribution mains must assure adequate flow for Miami-Dade County Fire/Rescue and consumer needs. Miami-Dade County requires water pressure between 20 and 100 pounds per square inch (psi) to be delivered to users, with a schedule of minimum fire flows based upon land uses served.

Policy 4.1.4: Coordinate with Miami-Dade County to ensure that the City's potable water demand is included in the Miami-Dade County Comprehensive Development Master Plan (CDMP) and WASD's Water Supply Plan.

Objective 4.2: Potable Water Service Coordination:

Potable water service shall continue to be planned and provided in conformity with the Future Land Use Element and the Miami-Dade County CDMP.

Monitoring Measure: Potable water service plans and Infrastructure Element consistent with the Future Land Use Element and the Miami-Dade County CDMP.

Policy 4.2.1: Coordinate future land use designations to ensure that sufficient water supply is available to serve existing and projected demand.

Policy 4.2.2: Coordinate with Miami-Dade County WASD to meet existing and future demands.

Policy 4.2.3: Coordinate raw water wellfield expansion and specific well location with Miami-Dade County, North Miami Beach and regional agencies.

Objective 4.3: Connection to the Potable Water System:

Ensure that all new development with access to the potable water system is required to connect to the system, if available capacity exists.

Monitoring Measures: Number of approved developments consistent with this objective.

Policy 4.3.1: New subdivisions, and any additions to subdivisions that have not received final subdivision approval, at urban densities greater than 1.0 dwelling unit per acre or any new non-residential uses shall be allowed only in areas with existing or planned capacity in the potable water system to support the proposed development. Planned capacity is defined as that

increase in plant capacity as a result of capital improvements identified in the Miami-Dade County Capital Improvements Program.

Policy 4.3.2: Retrofitting of existing water wells shall not be permitted within WASD service areas where there has been evidence of well contamination.

Objective 4.4: Comprehensive Water Conservation Program:

Coordinate with Miami-Dade County and the South Florida Water Management District to implement comprehensive water reuse and conservation measures through the City's development review process to ensure that a sufficient supply of water is available to meet current and future demand for potable water.

Monitoring Measure: Number of developments approved with native vegetation, low water demand landscape material, and water reuse plans.

Monitoring Measure: Implementation of water conservation requirements and public educational programs.

Policy 4.4.1: Promote public information programs sponsored by the South Florida Water Management District (SFWMD) in an effort to increase public awareness and acceptance of water conservation techniques through newsletters, public service announcements, and displays at public awareness events.

Policy 4.4.2: Coordinate with Miami-Dade County and SFWMD to implement water restrictions.

Policy 4.4.3: As part of the City's public awareness efforts, make available lists of vegetation classified by water demand for use by residents and developers.

Policy 4.4.4: By September 2007, review existing water conservation regulations and revise the land development code as necessary to ensure implementation of water conservation techniques, including:

- a. Subsurface and other water conserving irrigation techniques;
- b. Xeriscape techniques;
- c. Lawn watering restrictions;
- d. The use of low water use plumbing fixtures in all construction; and
- e. Any other effective methods commonly in practice or required by law.

Objective 4.5: Potable Water Supply Protection:

To protect the potable water supplies and sources, regulate land use and development to protect the functions of natural drainage features and natural groundwater aquifer recharge.

Monitoring Measure: Implementation and enforcement of land development regulations to protect the functions of natural drainage features and natural groundwater aquifer recharge.

- Policy 4.5.1:** Coordinate with the Miami-Dade County WASD and South Florida Water Management District (SFWMD) in determining and assessing impacts of proposed developments on the County's potable water supply.
- Policy 4.5.2:** Potable water supply shall be protected from the operation of septic tanks and other wastewater treatment systems through control of the location of such facilities, type of treatment, method of discharge, and monitoring.
- Policy 4.5.3:** Septic tanks and drainfields shall be placed no closer to wells, surface water areas, and conservation areas than the minimum distances provided in the Water Quality Assurance Act. City development regulations shall be consistent with these minimums and shall increase distances where soils are particularly unsuitable for on-site sewage systems.
- Policy 4.5.4:** On an annual basis, monitor the County's inventory of commercial and industrial enterprises that utilize, produce, or dispose of hazardous chemicals as a means to track potential sources of water contaminants.

GOAL 5: NATURAL GROUNDWATER AQUIFER RECHARGE:

Conserve, manage, and restore or enhance the natural groundwater for recharge areas of the City to ensure long-term environmental quality.

Objective 5.1: Surface Water Protection

Protect surface waters from degradation consistent with federal, state, and South Florida Water Management District (SFWMD) standards and maintain them in conditions that conserve their natural functions.

Monitoring Measure: Water quality standards for surface water.

- Policy 5.1.1:** Coordinate with representatives of the Miami-Dade County Department of Environmental Resource Management (DERM) and SFWMD to determine whether any areas of the City could be considered as potential groundwater recharge areas.
- Policy 5.1.2:** The natural hydrologic character of surface waters shall be maintained consistent with federal, state, and SFWMD standards. The natural character of surface waters, including sheet flows such as those found in floodways and those that connect wetlands with other wetlands and surface waters, shall be protected.
- Policy 5.1.3:** Native vegetation that occurs in natural surface waters and natural floodways shall be retained in its natural state. Harvesting, cutting, and

clearing activities shall be restricted except to remove exotic weeds, or as part of good vegetative management, including legitimate silvicultural activities, or to protect public health, safety, and welfare and shall be consistent, with federal, state, and SFWMD regulations.

Policy 5.1.4: Chemical control of aquatic weeds, exotic weeds, animal pests, insect pests, or undesirable fish shall be performed as specified under state and federal law, such that degradation of surface water quality will be minimized consistent with the protection of the health of the public and wildlife. The use of safe biological and mechanical controls shall be encouraged. Any such activity shall be conducted to maintain natural ecosystems and to achieve sound resource management and public health objectives consistent with all applicable regulations.

Policy 5.1.5: Florida Department of Environmental Protection (FDEP) water quality standards for various classes of surface water, as identified in FAC Rule 17-302, shall be used as minimum criteria for maintenance of water quality in the City of Miami Gardens.

Policy 5.1.6: Stormwater management systems shall meet or exceed state, city/county, and SFWMD design criteria. Retrofitting for stormwater quality treatment, consistent with the FDEP, SFWMD, and county stormwater rules, shall be required for existing stormwater discharge facilities when significant site plan modifications are proposed resulting in increases in density or intensity.

Policy 5.1.7: Wastewater discharges to waters of the state, wetlands and other natural surface waters shall not degrade water quality, damage the natural ecosystem, or exceed the assimilative capacity of the receiving water body, consistent with FDEP and SFWMD regulations.

Objective 5.2: Groundwater Protection

Protect groundwater resources consistent with federal, state, and SFWMD standards so that the quality of groundwater is not degraded such that the health, safety, and welfare of the public is threatened, or such that the viability and functional values of other natural resources are threatened.

Monitoring Measure: Adoption of growth management policies to protect water quality and groundwater resources.

Policy 5.2.1: In cooperation with SFWMD and Miami-Dade County, evaluate current and projected water demands and sources for the ten-year period based on the demands for industrial, agricultural, and potable water and the quality and quantity of water available to meet these demands.

Policy 5.2.2: Establish public wellfield protection areas to protect current and future public water supply needs from potential adverse effects from adjacent incompatible land uses and activities.

Policy 5.2.3: Groundwater in and adjacent to Wellfield Protection Areas and designated High Aquifer Recharge Areas shall be given special protection according to the following provisions:

- a. Limit incompatible land uses within public wellfield protection zones and designated High Aquifer Recharge Areas consistent with federal, state, and SFWMD regulations. Appropriate development regulations shall be established to control land uses and activities in proximity to wellfields and designated High Aquifer Recharge Areas. These controls will be based upon:
 - The potential of the land use or activity to contaminate groundwater;
 - Distance from a public wellfield;
 - Local aquifer geology; and
 - The capability of the activity to contain or eliminate the hazard of contamination.
 - These regulations shall control activities involving fuel storage tanks, hazardous waste generators and hazardous material users, private wells, wastewater treatment systems, landfilling operations, dairies or other uses with a high potential for groundwater contamination.
- b. Regulate well construction near public wellfields. New well construction shall be regulated and inspected to ensure that wells are properly constructed and properly closed and sealed when no longer in use. The construction of new private wells in the vicinity of existing public wellfields shall be limited by the development regulations to protect the water supply.
- c. In conjunction with the SFWMD and Miami-Dade County, identify and designate High Aquifer Recharge Areas and the basis for that identification, areas for wellfield expansion, and potential areas for future wellfield locations based on projected need, existing land uses, and appropriate environmental, social, and economic criteria. After the identification and designation of High Aquifer Recharge Areas has been completed, development regulations shall address the levels of protection needed for these areas.

Policy 5.2.4: Development regulations shall be adopted to minimize the risk of degrading groundwater quality and to ensure compliance with state and federal water quality standards by any activity or proposed activity with a significant potential for adversely affecting stream-to- sink surface water basins or areas where the Floridan Aquifer system is unconfined or semiconfined.

Policy 5.2.5: Appropriate local planning, development design standards, and special construction practices shall be required to ensure both short and long-term mitigation of impacts on groundwater created by activities occurring in stream-to-sink basins and in areas where the Floridan Aquifer is unconfined or semiconfined. The following provisions shall apply:

- a. All new development or modifications to existing development shall provide stormwater treatment.
- b. Corrective action to retrofit or upgrade existing hazardous material facilities consistent with standards applicable to new facilities shall be required by the City. The Hazardous Materials Management Code and development regulations establish guidelines and minimum compliance standards for existing facilities.
- c. New development activities that involve handling or storing of hazardous materials may be prohibited in areas and shall be subject to the general requirements, siting prohibitions, storage facility standards, secondary containment requirements, and monitoring provisions of the Hazardous Materials Management Code. Where such facilities exist and are proposed to be modified, development review and permitting activities shall include careful evaluation and implementation of engineering and management controls, setbacks and buffers, and monitoring. Existing facilities shall meet the requirements of the Hazardous Materials Management Code pertaining to such facilities.

Policy 5.2.6: All development located within the High Aquifer Recharge Area shall ensure that post-development water runoff rate and/or volume and water quality does not exceed pre-development runoff rate and/or volume and water quality.

Policy 5.2.7: Abandoned installations or facilities shall be properly deactivated, with contaminants properly disposed. Leaking underground storage tanks shall be promptly taken out of service and repaired.

Policy 5.2.8: Abandoned underground storage tanks shall be removed, unless removal would threaten the structural integrity of a nearby building or other structure. In such cases where in-place abandonment is necessary, the tanks shall be abandoned in-place by removing all hazardous materials,

cleaning the tank, and filling with an appropriate inert substance. The development regulations shall specify proper procedures for the various types of materials and installations and shall address methods of assessing and recovering the costs of the activity. Abandoned wells shall be sealed.

Policy 5.2.9: Existing installations or facilities that have the potential for significant contamination of groundwaters shall be retrofitted or replaced with leak detection, secondary containment, and environmental monitoring. Groundwaters that may be significantly and adversely affected by new installations, facilities, or other development activities shall be protected by stringent engineering controls, limited development densities and/or use restrictions, and monitoring. The development regulations shall specify the engineering controls, setback requirements, buffers, appropriate densities, use restrictions, and monitoring to implement this policy.

Policy 5.2.10: Old garbage disposal areas, illegal dumps, other waste sites where groundwater contamination has been determined to exist, and such other sites that may potentially contain contaminants that threaten groundwater resources shall be evaluated and appropriate cleanup activities identified and implemented. When the responsible party for the site is known, such person or persons shall assume the costs of the evaluation, monitoring and cleanup measures.